Title：Calculation of PLSV's minimum effective variation

♦Problem

When PLSV is executed, it is ineffective to change output frequency.

♦Description

PLSV　D100　Y00　Y02

D100: output frequency; Y00: pulse output point; Y02: direction output point

When PLSV is executed, content of D100 is permitted to change by user. If variation is not enough, then output will not be changed. D8160L(*1) (Y0 axis current speed) will not be changed, either.

D8156L (Y0 axis maximum speed), D8164 (Y0 axis acc/deceleration time)

♦Solution

Minimum effective variation is related to maximum speed and acc/deceleration time. The formula as follows, (*2)

Minimum effective variation = Maximum speed / Acc/Deceleration time

♦Example

(1) If maximum speed is 100K(pps); acc/deceleration time is 100(ms)

100,000 / 100 = 1000, then minimum effective variation is 1000. i.e. content of D100 have to use 1000 for an unit to add / reduce, then it will just be effective.

(2) If user define max. speed is 100K(pps); acc/deceleration time is 500(ms)

100,000 / 500 = 200, then minimum effective variation is 200. i.e. content of D100 have to use 200 for an unit to add / reduce, then it will just be effective.

Comparison

Acc/deceleration time / max. speed	100	500	1000	1500
10K	**100**	**20**	**10**	**(*3) 7**
100K	**1000**	**200**	**100**	**(*3) 67**

*1 : L : 32bits

*2：In PLSV execution, if change max. speed or acc/deceleration time, then have to re-execute PLSV to make new setting value be effective. It will not be effective to change direction when PLSV is executed.

If assigned output frequency is lower than bias speed, then it will operate by bias speed.

*3：If calculated result is not integer, then carry number to be integer.